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Market Code Schedule 6

Code Subsidiary Document 0001

Market Entry and Assurance Strategy for the Water Market in Scotland

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I   Version Control

Version	Status	Issue Date	Reason for Change
1.0	Final	May 2007	First Publication
1.0	Reissue	August 2007	Errata and clarification

II   Change History

Ref	Affected Sections	Effective Date	Version Implemented

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1. Introduction

1.1 Purpose and Scope of the Market Entry & Assurance Strategy

This document describes the Market Entry & Assurance Process that the CMA will administer for the purposes of the Market Code. Throughout this document the Market Entry & Assurance Process will be referred to as the Market Assurance Process.

Each Licensed Provider will require to successfully complete the Market Assurance Process:-

1. before the Licensed Provider will be permitted to Register Supply Points in the Supply Point Register in relation to either or both Water Services and Sewerage Services as appropriate;
2. where an Approved Change to the Market Code or any changes to the Central Systems has a material effect on either Data Transactions or other interactions between the CMA and that Licensed Provider; and
3. where there is a change to the Licensed Provider's systems or processes which has a material effect on either Data Transactions or other interactions between the CMA and the Licensed Provider.

Scottish Water will require to successfully complete the Market Assurance Process:-

1. where an Approved Change to the Market Code or any changes to the Central Systems has a material effect on Data Transactions or other interactions between the CMA and Scottish Water; and
2. where there is a change to Scottish Water's systems or processes which has a material effect on Data Transactions or other interactions between the CMA and Scottish Water.

The CMA will also administer the Market Assurance Process in relation to one or more Trading Parties where:-

(i) required by the Market Auditor;
(ii) necessary to help resolve a Dispute;
(iii) required by the Expert; and
(iv) required in relation to a Trading Party who is persistently failing Performance Standards.

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The CMA will administer the Market Assurance Process in order to provide confidence to Trading Parties that the risk of disruption arising from the situations described above has been appropriately mitigated.

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2.   Market Assurance Process – Methodology

2.1   Principles

The CMA shall apply the following principles in administering the Market Assurance Process.

Pragmatic

The assurance must not place an unnecessary burden on the Trading Party. This will be achieved by evaluating the risk presented by the Trading Party and by the CMA applying the Market Assurance Process appropriately.

Impact

Approved Changes to the Market Code and changes to a Trading Party's own systems will result in varying degrees of impact to the Trading Party or on other Trading Parties. The CMA will use the Market Assurance Process to assess the risk for the introduction of such changes and will perform assurance appropriate to the associated risk.

Proportional

The Market Assurance Process will use the review of the Trading Party's Project process to determine the extent of assurance a Trading Party will have to execute. This approach includes an obligation on the Trading Parties to revert to the CMA when a change has been made to the Licensed Provider's system or processes, or on a change to Scottish Water's systems or processes, or on a change to the Central Systems or Market Code.

Evidence

Site-based work will be kept to a minimum consistent with maintaining a satisfactory level of assurance. Site visits may be conducted by or on behalf of the CMA initially to establish agreement regarding the quality, quantity and timing of evidence to be provided by the Trading Party. Subsequent requests for evidence can be submitted to the CMA for off-site auditing where practicable.

Service

The Licensed Provider will be required to complete the Market Assurance Process for the Services it has declared on its Licence application. The Services may be:

- Water Services;
- Sewerage Services; or
- Both Water and Sewerage Services

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Licensed Providers who start with one Service (e.g. Water) may choose to apply for a Licence for the other (i.e. Sewerage). Where such a Licence is granted, the Licensed Provider will be required to undertake appropriate additional assurance for the new Service.

2.2   Assurance Techniques

This section describes the techniques that the CMA will use to administer the Market Assurance Process:

Review of the Licensed Provider's Project

This review process will be carried out for all new market entrant Licensed Providers at the start of the Market Assurance Process. The Licensed Provider will provide a report to the CMA setting out their intended systems, business processes and staffing levels. The Licensed Provider will also confirm that they understand the Market Assurance Process and are aware of and will comply with the Market Code. This report will assist the CMA in determining an appropriately scaled assurance program.

Business Solution Assessment

The CMA will carry out the Business Solution Assessment to seek assurance that the Trading Party's systems and processes are designed and built in such a way that the Trading Party will meet the obligations of the Market Code. The Trading Party should schedule the Business Solution Assessment with the CMA as early as is possible so that any revisions, arising from the assessment, can be incorporated prior to their system build/procurement. The Business System Assessment also looks at other areas such as management procedures.

The CMA will provide the Trading Party with a checklist of requirements for their completion and return to the CMA. They will also be required to supply formal design and process documents that demonstrate their plans for compliance with the Market Code. An assessment of the information provided will then be carried out by or on behalf of the CMA. There will be an initial assessment of documentary evidence at the CMA's offices. This may be followed by a site visit to gain a clearer understanding of the Trading Party's design.

Key areas of assessment will include:

- Compliance with the Market Code
- Systems architecture
- System functionality vs. business procedures
- Coherence of procedures and systems
- Transaction processing and validation
- Change and configuration management

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- Test planning and management
- Problem management

The Business Solution Assessment will include constructive question and answer sessions and "walkthrough" exercises to determine whether the Trading Party has a comprehensive and consistent set of systems and processes and an effective change control method to manage them.

Any issues identified will be formally documented and the Trading Party will be expected to propose and agree corrective actions. The results of the actions are then verified by the CMA. An outcome report will be produced on completion of the Business Solution Assessment and thereafter updated on completion of the corrective actions. These reports will be treated as confidential and sent to the CMA Board informing them of the progress of the Trading Party in the Market Assurance Process.

Data Transaction Capability Testing

The purpose of Data Transaction Capability Testing is to gain assurance that the Trading Party will be able to send and receive Data Transactions to and from the Central Systems correctly.

Data Transaction Capability Testing is a precursor for Market Scenario Testing and the CMA will use the Central Systems to carry this out.

The Central Systems will offer both a Low and High Volume Interface. Trading Parties will be permitted to use either a Low or High Volume Interface. The Low Volume Interface service will allow Trading Parties to create Data Transactions by entering data into screen based forms individually. The High Volume Interface will allow pre-constructed Data Transactions to be submitted to the CMA by the Trading Party. Trading Parties will be expected to use the interface that is appropriate to their proposed market volume by the CMA.

The CMA will test the communications interface from the Trading Party's systems to the CMA as well as the reverse path from the CMA. Data Transaction Capability Testing does not test business process or subsequent processing of Data Transactions by the Trading Party's systems.

The CMA will construct the Trading Party's Data Transactions in accordance with the Data Transaction Catalogue. Issues, follow-up and reporting will be documented and dealt with in the same manner as in the Business Solution Assessment.

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All new entrant Licensed Providers will be required to carry out Data Transaction Testing but it may also be appropriate for Trading Parties in other cases (e.g. change to Central Systems, change of IP address).

Verification will be by documentary evidence that the Trading Party will be required to provide and a supporting report will be prepared by the CMA.

Integration Test Assessment

Internal testing by each Licensed Provider will be required to ensure compliance with the Market Code. The CMA will require to be satisfied that the Trading Party has carried out system testing, user acceptance testing and integrated tests that cover all of the Market Code functions.

Integration Test Assessment will be performed by the CMA after completion of the Trading Party's internal testing to verify that the Licensed Provider has carried out satisfactory testing of its systems and processes and remedied any problems arising from this testing and has re-tested accordingly.

A Trading Party will require to complete and return a checklist to the CMA. The checklist will assist in identifying the current baseline of the Trading Party's system, documents and project schedule. After receipt of this information the Integration Test Assessment will proceed. The CMA will execute the Integration Test Assessment at the premises of the Trading Party if it considers this appropriate. The assessment will seek to verify coverage of the design, test execution and test reviews. Two main types of test will generally be performed:

- End-to-end integration testing based on realistic business scenarios; and
- Market interface testing including Data Transaction generation, despatch, receipt, validation, routing and rejection.

  Issues, follow-up and reporting will be documented and dealt with as for the Business Solution Assessment.

Market Scenario Testing

Market Scenario Testing will be carried out to obtain assurance that the Trading Party is able to carry out key scenarios that it will typically encounter using its declared systems, business processes and operational staff within normal, operational conditions.

The market processes are set out in the Code Subsidiary Documents.

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The scenarios will be defined in the form of storyboards. This technique will use a central test service, provided by the CMA. Planning and co-ordination will be essential for managing:

- The schedule for testing, including any re-tests;
- Test data; and
- Problem processing.

Trading Parties will run the tests and will require to produce appropriate evidence of each test step to support the test outcomes. This will include, but is not limited to, prints of Data Transactions both sent and received, prints of relevant screenshots, reports, file and relevant database prints. Where appropriate the CMA will collect evidence received from and sent to the Trading Party during testing.

The Trading Party will collect evidence and forward it to the CMA on a step-by-step basis. The CMA will assess the evidence as it is received and compare it with expected results. Any discrepancies will be reported by the CMA to the Trading Party.

Trading Parties will require to re-run any tests that have failed. The CMA will, where practicable, discuss re-run options with the Trading Party in order to find a pragmatic way forward (e.g. partly re-run). Issues, follow-up and reporting will be documented and dealt with in the same manner as described in the Business Solution Assessment.

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3. Types of Assurance

3.1 New Licensed Provider becomes a Trading Party under the Market Code

The assurance process will be proportionate to the size and type of service the Licensed Provider intends to operate, as specified in its Licence application.

Licensed Providers that operate a High Volume Interface have a potential to disrupt other Trading Parties with one error being replicated numerous times. Licensed Providers that operate a Low Volume Interface and Self Supply Licensed Providers pose a reduced risk to other Trading Parties as a result of the following characteristics:

- Their level of activity is low or isolated; and
- Their inter-operation requirements with the CMA are limited.

Each Licensed Provider will require to successfully complete the Market Assurance Process for each Service Category for which it obtains a Licence. Each Licensed Provider will require to demonstrate its capability to comply with all Market Code obligations relevant to the Service Category for which it obtains a Licence.

3.1.1 Phases of Market Entry Assurance Process

This section describes the assurance process the CMA will carry out for new Licensed Providers who wish to start Registering Supply Points in the Supply Point Register for a Service Category. The level of testing and the Market Assurance Process will be tailored to the type of Licensed Provider. The assurance approach comprises of the following:

Review of the Licensed Provider's Project

The new Licensed Provider will require to complete and return a questionnaire to the CMA. This will indicate whether the new entrant Licensed Provider intends to use a High Volume Interface, Low Volume Interface or is a Self Supply Licensed Provider and will elicit some details about how it intends to operate under the Market Code. The CMA will review this and will meet and discuss with the Licensed Provider the scope and requirements of the Market Assurance Process.

Business Solution Assessment

The new Licensed Provider will require to complete and return a questionnaire to the CMA. Typical questions will refer to the Service Category the Licensed Provider is going to operate

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in; the systems that the Licensed Provider will use (including version numbers, etc); business processes and supporting documentation (including version numbers); organisational charts; anticipated customer volumes; anticipated wholesale volumes. This will assist the CMA in providing the optimum assurance process for the new entrant Licensed Provider. The questionnaire must be signed by a Director, Chief Executive or by a person who otherwise has a suitable level of authority.

Integration Test Assessment

The CMA will either arrange a site visit or request data be made available by the Licensed Provider for inspection at their offices. The CMA will conduct an assessment of the testing carried out by the Licensed Provider in the form of sampling. As samples are assessed for completeness the CMA will contact the Licensed Provider for additional information as necessary to substantiate the evidence provided.

Upon completion of the assessment the CMA will issue an outcome report to the Licensed Provider for comment. The outcome report will either be favourable, allowing the Licensed Provider to proceed to the next phase of the Market Assurance Process or recommend some form of corrective action. If corrective action is required the CMA will reschedule a future date for re-assessment of the Integration Test Assessment with the Licensed Provider.

Data Transaction Capability Testing

Data Transaction Capability Testing will be conducted to test the capability of the Licensed Provider to produce and capture data required for the Market Code. This will require the Licensed Provider to generate transaction records as specified in the Data Transaction Catalogue which will then be sent via the internet to the CMA. The CMA will send Data Transactions back to the Licensed Provider who will be required to demonstrate their capability to accept the data and store it in a manner consistent with their declared systems.

Market Scenario Testing

The Licensed Provider will run scenarios that will be relevant to the Service Category they will be providing. The scenarios will be defined by the CMA. It is the responsibility of the Licensed Provider to create their own test scripts for the scenarios, customised to their systems and procedures. Typical scenarios will include, but are not limited to:

- New Supply Point;
- Transfer Registration (both gain and loss);
- Transfer Registration (Cancel Transfer);
- Add Meter;
- Remove Meter;

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- Disconnection;
- Meter Change and
- Regular Meter Reading

The Licensed Provider will require to confirm the successful completion of the tests by providing a signed declaration to the CMA that the tests have run as expected. The Licensed Provider's declaration will require to include an acknowledgement that it will undertake further assurance if it makes changes to its systems or processes in accordance with the Market Code. Dependent upon the significance of any recommended change by the CMA further test evidence may be necessary.

3.2 Existing Licensed Providers wishing to offer a new Service Category

In accordance with the principles set out in Section 2.1, the Market Assurance Process will cater for existing Licensed Providers wishing to offer another Service Category, for example an existing Licensed Provider currently offering only Water Services will be required to complete the Market Assurance Process for Sewerage Services.

3.3 Approved Changes to the Market Code and changes to the Central Systems

Approved Changes to the Market Code will be issued by the CMA periodically and these may or may not also give rise to Central Systems changes. Licensed Providers and Scottish Water must take appropriate measures to ensure that they have a change control process in place to manage this. The Ongoing Assurance Process differs from the Entry Assurance Process for the following reasons:

- The nature of the changes and their potential impact on Licensed Providers and Scottish Water will vary with each update to the Market Code. In particular, where any Data Transaction structure is to be changed there will be a direct impact on all Licensed Providers and Scottish Water that needs to be carefully planned by the CMA; and
- Scottish Water and most of the Licensed Providers (brand new entrants may be an exception) involved will be experienced in operating under the Market Code.

The CMA will carry out a "due diligence" check that all Scottish Water and Licensed Providers have taken reasonable steps to ensure continued compliance with the Market Code. These

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steps will include (but not be limited to), impact assessment, procedural and software updates, testing of these, plans for implementation, and contingency for a failed implementation etc., as appropriate. It will be the responsibility of Scottish Water and the Licensed Providers to implement their own change management processes, with the CMA ensuring these are satisfactory.

In some cases, especially where a change to the Data Transaction Catalogue is to occur, Data Transaction Capability Testing and/or Market Scenario Testing may be necessary.

The same approach will also be applied by the CMA to provide assurance on changes made to Central Systems, for example data aggregation and settlement. However this will be based on the nature, scope and complexity of the change.

The table below illustrates the general relationship between the nature of change and the necessary assurance. It is stressed that these are examples for illustration only.

Examples of Change	Typical Impact on Market Assurance required			
	Assurance required by CMA	Exchange of test Data Transactions	DTCT	MST
Change to DTC: new Data Transaction	Yes	Yes	Yes	Yes
Change to DTC: new field on existing Data Transaction implemented by CMA	Yes	Yes	Yes	Likely
Change to DTC: new field on existing Data Transaction implemented by Trading Party	Yes	Yes	Yes	Likely
Data Aggregation or Settlement	Yes	Unlikely	Unlikely	Unlikely

Table 1- Illustration of change assurance requirements

3.4   Re-Qualification for Existing Trading Parties

The procedures and systems used by Trading Parties to operate under the Market Code will be subject to change. This could be as a consequence of an Approved Change to the Market Code described in section 3.3 or otherwise. Where such a change impacts on their ability to operate with the Central Systems the CMA will require that the Trading Party carries out some level of assurance to confirm that the change has been managed in such a way that the risk

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to other Trading Parties has been minimised. This assurance process is known as re-qualification.

The method is consistent with that described for the Approved Changes to the Market Code. The CMA will check that the Trading Party has carried out an impact assessment for the change, designed the change(s) and subjected it to independent internal review, implemented and tested it and planned for its introduction into the live market. Market Scenario Testing will be supported by the CMA, and will be scheduled by agreement between the CMA and the Trading Party.

The table below illustrates some typical changes that may arise. It also shows the likelihood of an impact on a Trading Party's ability to continue to comply with their Market Code obligations and therefore the likelihood that assurance by the CMA will be required. It is *stressed* that these are only examples and are intended to assist Trading Parties in their own assessment of whether change that they are intending to make is likely to require a re-qualification.

	Typical Impact on market obligations and likelihood that Market Assurance Process is required		
Examples of Change	**Not Likely**	**Possibly**	**Very Likely**
System Change	Change to non industry-facing system (e.g. pure billing system)	Significant change to industry-facing system	
		Replacement of industry-facing system with established, proven system	Replacement of industry-facing system with a new, unproven system
		Change to user interface	
	Bulk migration of industry data using industry processes		Bulk migration of industry data but not using industry processes
Process Change	Process updates for improvement of accuracy and clarity	Manual process replaced by automated process (industry-facing)	Multiple manual processes replaced by automated processes (industry-facing)
	Minor process change to reflect changing reporting structure or internal company policy		Major rewrite of process

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Staff Change	Routine staff changes and associated intra-company re-organisations	Staff changes due to acquisition of new company	Relocation requiring total staff replacement

Table 2- Illustration of re-qualification assurance requirements (examples)

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4. Governance

4.1 Approval of Assurance Processes

The CMA Board will approve, or otherwise, each phase of a Trading Party going through the Market Assurance Process.

4.2 Entry and Exit Phases

The review and approval process for Trading Parties' entry to, and exit from, assurance phases will be conducted by the CMA.

On completion of phases of the Market Assurance Processes described in section 3, approval will be needed for a Trading Party to continue to the next phase of the Market Assurance Process or to exit the Market Assurance Process. The approval body is, in all cases, the CMA Board.

Approval may be subject to conditions set by the CMA Board. The Trading Party provides to the CMA Board any reasonable information required to monitor compliance with such conditions and in order to determine when the conditions may be lifted.

Any approval given is limited to the Service Category or change related scenario for which the Market Assurance Process has been successfully completed.

On approval of a new entrant Licensed Provider the CMA will update the Central System to reflect the Licensed Provider now has operational approval.

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5. Reporting

5.1 General Updates

General updates on assurance activity will be provided to the CMA Board by the CEO. These reports will focus on:

- Scale of activity with respect to new Licensed Providers, existing Licensed Provider's assurance for a new Service Category and material changes being made to Licensed Provider's systems;
- Scale of activity with respect to Scottish Water's assurance for material changes being made to Scottish Water's systems;
- Assurance plans, progress and status report for Market Code Approved Changes; and
- Plans and progress for changes to the Market Assurance Process itself.

5.2 Party specific reports

As authorising body the CMA Board will be kept informed of the progress being made by each new Licensed Provider, existing Licensed Providers and Scottish Water undertaking assurance activity. In particular the CEO will provide the CMA Board with a copy of the detailed stage reports required by it in order that it may:

- Authorise completion of an intermediate or final phase of assurance for a Trading Party;
- Be kept informed of the progress of all Trading Parties; or
- Make an informed go/no-go decision on "cut-over" for any change to the Central Systems.

Copies of the detailed phase reports will be given to the Trading Party. The Trading Party will have the opportunity to add comments on the report prior to its issue to the CMA Board.

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